

What is claimed is:

1 1. A method of administering gene therapy or delivering recombinant or foreign
2 polynucleotides to mammalian cells or organisms, comprising the steps of:

3 a) creating a genetically engineered baculovirus having a deletion,
4 inactivation or downregulation of an envelope protein gene of a
5 progenitor baculovirus, from which said engineered baculovirus is
6 derived, wherein said genetically engineered virus is supplied, in
7 trans or cis, with a heterologous envelope protein or a protein or
8 other molecule that facilitates entry of said engineered baculovirus
9 into a cell that is not normally a host of said progenitor baculovirus;

10 b) further modifying said engineered baculovirus to express a gene therapy
11 agent or recombinant or foreign polynucleotide; and

12 c) delivering said modified baculovirus into said mammalian cell or
13 organism.

1 2. The method of claim 1, wherein said genetically engineered baculovirus has a property
2 of more efficient entry into a non-host cell than said progenitor baculovirus, from
3 which said engineered baculovirus is derived.

1 3. The method of claim 1, wherein said genetically engineered baculovirus has a property
2 of more specific targeting of said engineered baculovirus to a specific cell type than
3 said progenitor baculovirus, from which said engineered baculovirus is derived.

1 4. The method of claim 1, wherein said genetically engineered baculovirus has a property
2 of more effective evasion of mammalian immune system recognition or
3 inactivation than said progenitor baculovirus, from which said engineered
4 baculovirus is derived.

1 5. The method of claim 1, wherein said genetically engineered baculovirus is engineered to
2 express an envelope protein from Vesicular Stomatitis Virus.

1 6. The method of claim 5, wherein said envelope protein from Vesicular Stomatitis Virus
2 is VSV-G protein.

1 7. A method of protein expression, comprising the steps of:

2 a) creating a genetically engineered baculovirus having a deletion, inactivation
3 or downregulation of an envelope protein gene of a progenitor
4 baculovirus, from which said engineered baculovirus is derived, wherein
5 said genetically engineered virus is supplied, in trans or cis, with a
6 heterologous envelope protein or a protein or other molecule that facilitates
7 entry of said engineered baculovirus into a cell that is not normally a host of
8 said progenitor baculovirus;

9 b) further modifying said engineered baculovirus to express a recombinant or
10 foreign polynucleotide; and

11 c) delivering said modified baculovirus into a suitable cell for expression of
12 said recombinant or foreign protein by said engineered baculovirus.

1 8. The genetically engineered baculovirus of claim 1, wherein said genetically engineered
2 baculovirus infects and replicates in at least one permissive insect cell host of said
3 progenitor baculovirus.

1 9. The genetically engineered baculovirus of claim 8, wherein said progenitor baculovirus
2 envelope protein is gp64 or a homologous envelope glycoprotein.